APPENDIX A

FEDERAL COORDINATION AND PLANNING

BASIS FOR FEDERAL COORDINATION PROCESS

In 1963, Congress and the Executive Office of the President expressed concern about the adequacy of coordination of federal meteorological activities. In response, Congress directed in Section 304 of Public Law 87-843--the Appropriations Act for State, Justice, Commerce, and Related Agencies--that the Bureau of the Budget prepare an annual horizontal budget for all meteorological programs in the federal agencies.

The Bureau of the Budget (now the Office of Management and Budget) issued a report entitled "Survey of Federal Meteorological Activities" (1963). The report described each agency's program in some detail, particularly its operational services, and detailed the relationship between the programs of the various agencies. The report revealed close cooperation but little evidence of systematic coordination. Based on this study, the Bureau of the Budget issued a set of ground rules to be followed in the coordination process. It established a permanent general philosophy for assignment and assessment of agency roles in the field of meteorology and set certain goals to be achieved by the coordination process. The Bureau of the Budget tasked the Department of Commerce (DOC) to establish the coordinating mechanism in concert with the other federal agencies. It also reaffirmed the concept of having a central agency--the DOC--responsible for providing common meteorological facilities and services and clarified the responsibilities of other agencies for providing meteorological services specific to their own needs.

The implementation of these directives by DOC led to the creation of the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM) which operates with policy guidance from the Federal Committee for Meteorological Services and Supporting Research. The principal work in the coordination of meteorological activities and in the preparation and maintenance of federal plans is accomplished by the OFCM staff with the advice and assistance of the Interdepartmental Committee for Meteorological Services and Supporting Research, and over 30 program councils, committees, working groups, and joint action groups.

MISSION AND STAFFING OF THE OFFICE OF THE FEDERAL COORDINATOR FOR METEOROLOGY

The mission of the OFCM is to ensure the effective use of federal meteorological resources by leading the systematic coordination of operational weather requirements and services, and supporting research, among the federal agencies. To discharge its mission, OFCM has meshed its objectives with the objectives of the agencies that provide the services and perform the research.

These objectives include:

- Documenting agency programs and activities in a series of national plans and reports that enable agencies to revise/adjust their individual ongoing programs and provide a means for communicating new ideas and approaches to fulfill requirements.
- Providing structure and programs to promote continuity in the development and coordination of interagency plans and procedures for meteorological services and supporting research activities.
- Preparing analyses, summaries, or evaluations of agency meteorological programs and plans that provide a factual basis for the Executive and Legislative branches to make appropriate decisions related to the allocation of funds.
- Reviewing federal weather programs and federal requirements for meteorological services and supporting research. This review may suggest additions or revisions to current or proposed programs, or identify opportunities for improved efficiency, reliability, or cost avoidance through coordinated actions or integrated programs.

DOC currently has ten positions assigned to OFCM. DOC also provides administrative support to OFCM and approximately one-half of OFCM's annual operating budget. The Department of Defense (DOD) currently provides two senior staff officers--one Air Force and one Navy--and contributes approximately one-fourth of the annual operating budget. The Department of Transportation (DOT) Federal Aviation Administration (FAA) provides one professional staff member and also provides approximately one-fourth of the annual operating budget. These three agency representatives are designated Assistant Federal Coordinators for liaison to their respective agencies. In all, 13 meteorologists, oceanographers, physical scientists, and administrative and computer-support personnel are assigned to the OFCM staff.

FEDERAL COMMITTEE FOR METEOROLOGICAL SERVICES AND SUPPORTING RESEARCH

The Federal Committee for Meteorological Services and Supporting Research (FCMSSR), established in 1964, provides policy-level agency representation and guidance to the Federal Coordinator to address agency differences that arise during the coordination of meteorological activities and the preparation of federal plans. The Under Secretary of Commerce for Oceans and Atmosphere, who is also the Administrator of the National Oceanic and Atmospheric Administration (NOAA), serves as the FCMSSR Chair.

The 15 federal agencies that engage in meteorological activities or have a need for meteorological services are represented on FCMSSR. The FCMSSR membership includes: DOC, DOD, DOT, the Departments of Agriculture (USDA), Energy (DOE), Interior (DOI), and State (DOS), and the Environmental Protection Agency (EPA), Federal Emergency Management Agency (FEMA), National Aeronautics and Space Administration (NASA), National Science Foundation (NSF), National Transportation Safety Board (NTSB), Nuclear Regulatory Commission (NRC), the Office of Science and Technology Policy (OSTP), and the Office of Management and Budget (OMB).

HIGHLIGHTS FOR FISCAL YEAR 2002 AND PLANS FOR FISCAL YEAR 2003

NATURAL DISASTER REDUCTION

56th Interdepartmental Hurricane Conference (IHC) (March 11-15, 2002). OFCM annually hosts the Interdepartmental Hurricane Conference to provide a forum for the responsible federal agencies, together with representatives of the user communities such as emergency management, to review the nation's hurricane forecast and warning program and to make recommendations on how to improve the program in the future. The 56th IHC was held in New Orleans, Louisiana. The theme for the conference was Hurricane Season 2002: 10 years after Hurricane Andrew. Vice Admiral Conrad C. Lautenbacher, Jr., USN (Ret.), Under Secretary of Commerce for Oceans and Atmosphere, provided the Keynote Address for the Conference. Research and operations presentations were integrated into each conference session. The conference reviewed the 2001 tropical cyclone season in the Atlantic Ocean, Gulf of Mexico, Caribbean Sea, and the Pacific Ocean. Sessions were held on Reconnaissance and Observations, Advances in Hurricane Modeling, Products and Services, Tropical Cyclone Precipitation and Inland Flooding, Emergency Management, and Transitioning Research to Operations (Bridging the Valley of Death). The Working Group for Hurricane and Winter Storms Operations and Research met to work on IHC action items and changes to the *National Hurricane Operations Plan*. In May, OFCM published the 40th edition of the *National Hurricane Operations Plan* which provides the basis for hurricane reconnaissance for the 2002 season and details responsibilities of federal agencies; operations and procedures; products; aircraft, satellite, radar, and buoy data collection; and marine weather broadcasts. Conference results included the need to: (1) continue research in forecasting the intensity and structure of hurricanes and tropical cyclones, (2) fully exploit coupled model technology, which integrates the atmosphere, ocean, and land as one fully coupled system, (3) investigate methods to effectively communicate forecast uncertainty to the public, (4) facilitate and expand collaborations and partnerships at the National Hurricane Center's Joint Hurricane Testbed, which was established to improve the transition of successful hurricane research results into operations, and (5) place increased priority on transitioning proven remote-sensing observational capability to the operational weather reconnaissance aircraft. To that end, the OFCM has provided $200,000 to support the acquisition of the next-generation Stepped Frequency Microwave Radiometer by the NOAA Aircraft Operations Center. The principal investigator is Dr. Peter Black of NOAA's Hurricane Research Division.

National Hurricane Conference (April 1-4, 2002). OFCM participated in the 2002 National Hurricane Conference in Orlando, Florida. The theme of this 24th NHC was *Preparing for Catastrophic Events: 10 Years after Hurricane Andrew*. There were over 1,100 attendees representing a large cross section of the hurricane emergency planning, response, and recovery communities, including emergency managers, fire and law enforcement officials, public works and transportation officials, news media, hospital and health care officials, engineers, meteorologists and geographers, volunteer agency representatives, and city and county commissioners, managers, and planners. Personnel staffed an OFCM exhibit and distributed copies of *The Federal Plan for Meteorological Services and Supporting Research -- Fiscal Year 2002, National Hurricane Operations Plan*, and proceedings from forums on Risk Management and

Assessments of Natural Hazards and Weather Information for Surface Transportation. OFCM also made arrangements for an opening session speech by Dr. James R. Mahoney, Assistant Secretary of Commerce for Oceans and Atmosphere, and arranged for a reception for Dr. Mahoney to meet all NOAA employees who attended the National Hurricane Conference. Dr. Mahoney met with David and Stan Tait, the organizers of the National Hurricane Conference, during which he expressed NOAA's continuing support for the NHC. Dr. Mahoney also met with Mr. Joe Allbaugh, Director of the Federal Emergency Management Agency, where he highlighted the need for a strong interagency working relationship between FEMA, NOAA, and the other federal agencies. During his presentation, Dr. Mahoney emphasized that NOAA is focused on three themes: commitment, partnership, and technological progress. Dr. Mahoney was also interviewed by the news media.

Post-Storm Data Acquisition. The OFCM-sponsored Working Group for Natural Disaster Reduction/Post-Storm Data Acquisition coordinated efforts to examine flood damage which occurred in Arkansas at the end of March 2002 and in Southwest Nebraska during July 2002, and to examine the devastation that resulted from the F4 tornado which impacted the La Plata area of southern Maryland at the end of April 2002. Aerial photography support was provided by the Air Force's Civil Air Patrol. The support provided by the Civil Air Patrol, which was negotiated by the working group and documented in a memorandum of understanding, has proven to be both timely and very cost effective.

Fire Weather. OFCM staff participated in the August 13-15, 2002, USDA Forest Service Research and Development/Atmospheric Science Research Program Meeting held at George Mason University, Fairfax, Virginia. Topics addressed include National Fire Plan status, smoke management issues, climate change, air quality, and fire emissions. Work is ongoing between the National Weather Service and the USDA Forest Service in connection with the Fire Consortia for Advanced Modeling of Meteorology and Smoke (FCAMMS), a national initiative under the National Fire Plan to provide mesoscale meteorological products to fire managers. There is also ongoing work between NOAA's Air Resources Laboratory and the USDA Forest Service in connection with air quality.

Environmental Support to Homeland Security. Since September 11, 2001, OFCM has undertaken an important role in the meteorological community in relation to environmental support to homeland security. OFCM formed the Working Group for Environmental Support to Homeland Security (WG/ESHS) to serve as the executive agent to the Federal Committee for Meteorological Services and Supporting Research (FCMSSR) for homeland security issues. Key players include NOAA (NWS, OAR, NESDIS, NOS), Navy, Air Force, Army, DOE, EPA, FEMA, NRC, FAA, USCG, FHWA, and DTRA. WG/ESHS meets frequently to inventory each federal agency's capabilities to support the requirements of the Office of Homeland Security; document and prioritize unmet needs and requirements for environmental support during crisis and consequence management; and develop a coordinated, interagency concept of operations for providing environmental support to homeland security. Areas of leveraging, areas where we can bring about improvements, and any new requirements are also explored.

FCMSSR Meeting. The Federal Committee for Meteorological Services and Supporting Research met on November 16, 2001, in the White House Conference Center. The meeting was specially called to discuss environmental support to homeland security and was attended by RADM Richard West, USN; Brig Gen David L. Johnson, USAF; and Brig Gen John J. Kelly, Jr., USAF (Ret.), together with other high level agency representatives to the federal committee. The purpose of the meeting was to help increase awareness of capabilities, cooperation, and leveraging opportunities among the federal agencies and to agree on some next steps for specific accomplishments to improve environmental support to homeland security. OFCM action items from the meeting included arranging for representation from the Justice Department and the Office of Homeland Security to work with us on homeland security issues and to attend future meetings related to environmental support to homeland security, establishing an interagency process for identifying requirements and establishing priorities for meteorological support to homeland security, identifying areas for increased leveraging and backup between agencies, hosting a meeting in a classified environment to discuss single points of failure within relevant agencies, establishing a working relationship with the Office of Homeland Security so that the meteorological community can make appropriate contributions, and proceeding with the *Workshop on Effective Emergency Response: Selecting a Suitable Dispersion Model for a Given Application.*

Effective Emergency Response. OFCM conducted a *Workshop on Effective Emergency Response: Selecting a Suitable Dispersion Model for a Given Application* on December 5-6, 2001, in Crystal City, Virginia. The purpose of the workshop was to address issues associated with the number and variety of atmospheric transport and diffusion (ATD) models existing today in the federal government. In particular, participants considered what models should be used in

specific situations and how those models are evaluated. The workshop was attended by approximately 90 individuals including representatives of the government, private, academic, and other sectors. Breakout sessions considered planning, response, and recovery applications for four scenarios (sarin release, explosion of a dirty nuclear device, plane crash into a nuclear power plant, and crop duster release of anthrax). Criteria were identified, together with their relative importance, for selecting models for the scenarios. OFCM published the proceedings of the workshop in March 2002. OFCM formed a Joint Action Group for Selection and Evaluation of Atmospheric Transport and Diffusion Models (JAG/SEATD) to take action on initiatives resulting from the workshop on effective emergency response. JAG/SEATD reviewed eight scenarios which covered a wide range of potential threats and exercised a variety of model capabilities. JAG/SEATD has identified 29 operationally relevant models. The Joint Action Group is continuing to identify common evaluation procedures; identify gaps and deficiencies in operational capability that need to be addressed through research and development; and consider ways to leverage agency participation in field experiments (e.g., the Oklahoma City full-scale field experiment). JAG/SEATD has published a report on its findings. The results of this work contributed to NOAA's FY 2004 initiative regarding Urban Weapons of Mass Destruction (WMD) Dispersion Forecasting.

Cooperative Support and Backup. The Working Group for Cooperative Support and Backup (WG/CSAB), which serves as the executive agent for the Committee for Operational Processing Centers, completed an update of the *Federal Plan for Cooperative Support and Backup Among the Operational Processing Centers*. WG/CSAB is also developing a Catastrophic Backup Action Plan to identify catastrophic backup shortfalls that exist at the nation's military and civilian meteorological, oceanographic, and satellite operational processing centers (OPC) that can be addressed in the short term. The document defines the plans, actions, and implementation steps required to minimize the impact of a catastrophic failure at one or more of the nation's OPCs. Eight shortfalls were initially identified, but the plan is intended to be a living document that will be reviewed and updated as required.

Meeting with the Office of Homeland Security (March 1, 2002). The Federal Coordinator arranged a meeting with the Office of Homeland Security to highlight the federal meteorological community's capabilities and responsibilities, and the interagency coordination infrastructure to provide environmental support to the nation's homeland security efforts. NOAA's capabilities in support of Homeland Security were also briefed. Attendees included:

- ADM Steve Abbot, USN (Ret.), Deputy Director of the Office of Homeland Security
- VADM Conrad C. Lautenbacher, Jr., USN (Ret.), Under Secretary of Commerce for Oceans and Atmosphere
- Brig Gen John J. Kelly, Jr., USAF (Ret.), Assistant Administrator for Weather Services, NOAA
- RADM Richard West, USN, Oceanographer of the Navy
- Brig Gen David L. Johnson, USAF, Director of Weather, United States Air Force
- Mr. Samuel P. Williamson, Federal Coordinator for Meteorological Services and Supporting Research
- Mr. Scott Rayder, Chief of Staff, NOAA
- Dr. Richard Spinrad, Technical Director, Office of the Oceanographer of the Navy
- CAPT Ted I. Lillestolen, NOAA Corps, Associate Deputy Assistant Administrator, National Ocean Service, NOAA
- Mr. Robert Dumont, Senior Staff Meteorologist, Office of the Federal Coordinator for Meteorology

Meeting with the Office of Homeland Security (August 22, 2002). The Federal Coordinator, key OFCM staff, and members of the JAG/SEATD met with the Office of Homeland Security to present the results of the report of the Joint Action Group for the Selection and Evaluation of Atmospheric Transport and Diffusion Models (JAG/SEATD). The report was the culmination of seven months of effort by top-notch agency experts to evaluate the modeling systems available to address the potential threats to homeland security. The report's recommendations included: need for research and development to bridge gaps in understanding and capability (13 research needs are identified in the report); need for more field tests to support both R&D and model evaluation; improved observations and model inputs; need for standard, consensus-based model evaluation procedures; and improved interagency coordination and information exchange. Attendees included:

- Dr. Parney Albright, Assistant Director for National Security and Homeland Defense (OSTP)
- Mr. Michael O'Brien, Senior Director, Administration and Support (OHS)
- Mr. Kenneth Stroech, Director for WMD Programs (OHS)
- Mr. Darrell Morgeson, Director for Critical Infrastructure Protection (OHS)
- Mr. John B. McGowan, Director for Cargo and Port Security (OHS)
- Mr. Samuel P. Williamson, Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

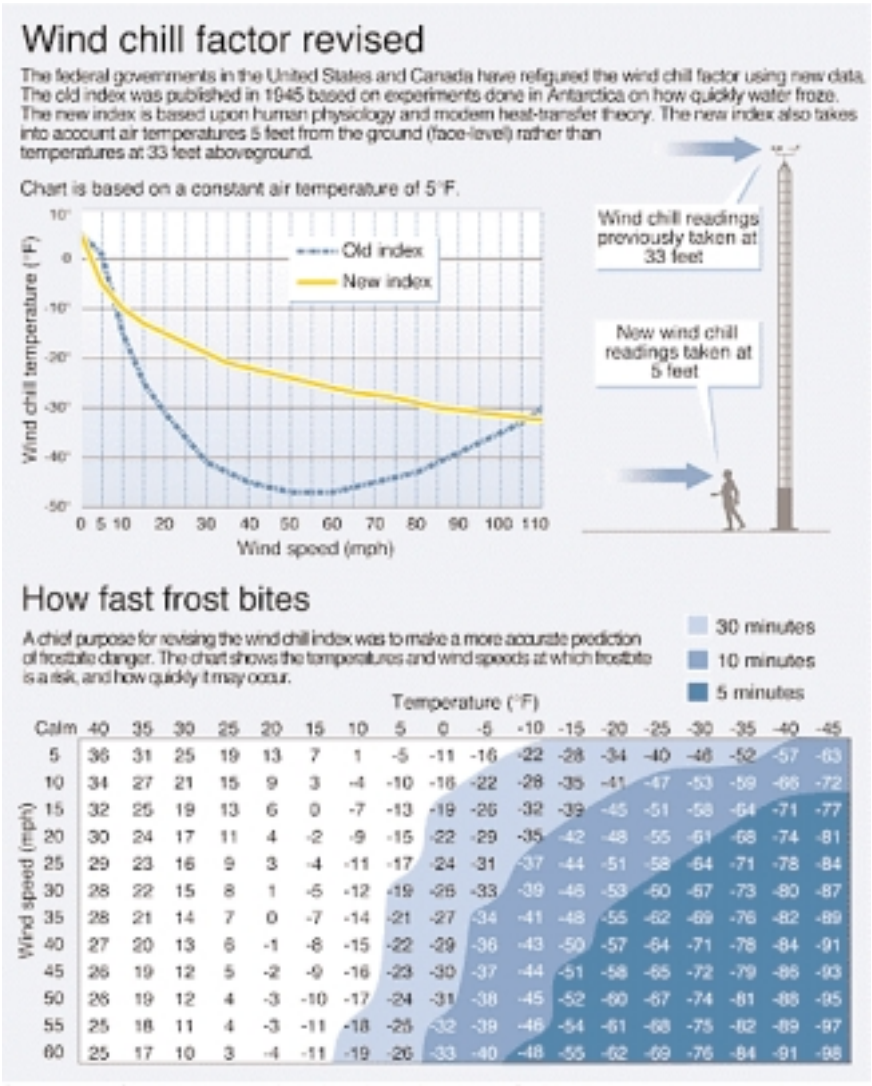
- Mr. Robert Dumont, Senior Staff Meteorologist (OFCM)
- Mr. Bruce Hicks, Director, Air Resources Laboratory (NOAA) and JAG/SEATD Chair
- Ms. Jocelyn Mitchell, Senior Level Technical Advisor, Office of Research (NRC) and JAG/SEATD Vice-Chair
- CAPT Ted I. Lillestolen, NOAA Corps, Associate Deputy Assistant Administrator, National Ocean Service, NOAA

Annual Federal Plan. OFCM prepared *The Federal Plan for Meteorological Services and Supporting Research -- Fiscal Year 2003*. The Federal Plan is Congressionally mandated and is a one-of-a-kind document which articulates the meteorological services provided and supporting research conducted by agencies of the federal government. The Federal Plan helps to reduce duplication among the agencies. It is a comprehensive publication that documents proposed programs for Fiscal Year 2003 and reviews agency programs in Fiscal Year 2002. The plan demonstrates to the Congress and to the Executive Branch how the federal agencies work together to accomplish their missions in an effective and efficient manner.

Weather Information for Surface Transportation. OFCM has continued its extensive involvement in the area of Weather Information for Surface Transportation (WIST). The bottom line is that improvements in surface transportation weather support will result in safer and more efficient operations by all users. OFCM has prepared a report addressing meteorological needs/ requirements for the six core modes of surface transportation: roadway, railway, transit, marine transportation/ operations, pipeline, and airport ground operations. This activity has included formation of a joint action group to address meteorological requirements for surface transportation; questionnaires; surveys; WIST symposia conducted jointly with the Federal Highway Administration (FHWA); meetings with railroad, pipeline, and emergency managers; and participation on panels concerning public-private partnerships in transportation and Intelligent Transportation Systems. The national needs assessment report is a culmination of intensive OFCM efforts in this area. OFCM personnel participated in the 12th Annual Meeting and Exposition of the Intelligent Transportation Society of America, with special attention given to the road weather management and traveler information/511 areas. There was overwhelming positive response to OFCM at the ITS-A meeting and exposition. A survey performed at the meeting showed that 40 percent of those surveyed believed that weather was their highest priority. OFCM personnel also participated in the Cooperative Program for Operational Meteorology, Education and Training (COMET) Review of the Progress of Surface Transportation/ Weather Research Projects sponsored by FHWA on September 17, 2002. Participants included FHWA, COMET, Desert Research Institute, Iowa State University, Pennsylvania State University, State University of New York, and University of Utah.

Aviation Weather. OFCM has also continued its extensive involvement in the area of Aviation Weather Services. OFCM has undertaken a leadership role in coordinating the establishment of a National Training Program to improve aviation weather training for users and providers of aviation weather information. Our primary objectives are to coordinate development and implementation of comprehensive aviation weather training programs, to improve awareness of and access to aviation weather training, and, ultimately, to improve the practical skills of users and providers of aviation weather services. In that regard, OFCM has published the document *Aviation Weather Training: A Report on Training for Emerging and Recently Implemented Aviation Weather Programs*. The purpose of the report is to evaluate how well training is being addressed for the aviation weather programs/projects in the April 2001 OFCM publication *National Aviation Weather Initiatives Final Baseline Report*. The transition from research and development to operations is not complete without training and the combined efforts of all concerned are needed to ensure that training is an integral part of the development process. OFCM's Joint Action Group for Aviation Weather also continues to establish, validate, and prioritize requirements for aviation weather services. OFCM is also continuing efforts concerning volcanic ash and expects to publish *A National Framework for Volcanic Ash Hazards to Aviation* during FY 2003.

Wind Chill Temperature Index. Under the leadership of OFCM's federal coordinating infrastructure, United States federal agencies, Canadian participants, and the academic research community have taken an important step towards improving the Wind Chill Temperature (WCT) Index, which will provide the citizens of the United States and Canada better protection of life and property. The previous wind chill index attempted to measure the rate of heat loss by the human body as wind blows across it at different temperatures and speeds. The index was developed in the 1940's during an Antarctic expedition and was known to overestimate the effect of wind by at least ten degrees. This fact provided a false sense of security, and people were sometimes not aware or prepared for the danger of severe winter weather. OFCM led the improvement effort by creating a Joint Action Group for Temperature Indices within its federal coordinating infrastructure, and this Joint Action Group pulled together the



various United States, Canadian, and academic entities to develop the new WCT Index based on 21st Century science. NOAA's National Weather Service, the United States Air Force, and the Meteorological Service of Canada implemented the new WCT Index during the winter season of 2001-2002. This new WCT Index is a substantial improvement over the previous practice and is based on a human face model. The index uses wind speed calculated at the average height of the human body's face, incorporates modern heat transfer theory, lowers the walking speed threshold used in calm wind situations, and uses a consistent standard for skin tissue resistance. Further refinements will include adjustments for solar radiation for a variety of conditions.

Strategy for Providing Atmospheric Information. OFCM conducted a forum to respond to agency priorities and to address Leadership and Management Recommendation 1 of the National Research Council/National Academy of Sciences Board on Atmospheric Sciences and Climate (BASC) report *The Atmospheric Sciences Entering the Twenty-First Century*, which states: "The Federal Coordinator for Meteorological Services and Supporting Research should lead a thorough examination of the issues that arise as the national system for providing atmospheric information becomes more distributed. Key federal organizations, the private sector, academe, and professional organizations should all be represented in such a study and should help develop a strategic plan." The *Workshop on Strategy for Providing Atmospheric Information: Planning to Exploit our National Investment in Weather Technology* was conducted December 3-5, 2001, in Crystal City, Virginia, and included sessions on handling atmospheric information in some key meteorological disciplines (climate, urban meteorology, and technological hazards) and interoperability, compatibility, and accessibility (observation/instrumentation standards, formatting the information, and communications issues). Proceedings from the workshop have been published. OFCM will use the results of the workshop to form the basis for strategic guidance as the United States system for providing atmospheric information continues to rapidly evolve. In his concluding remarks for the workshop, the Federal Coordinator noted that the highest priority near-term challenge must be to determine how to effectively acquire data in support of homeland security.

Collaboration with the United States Weather Research Program. The mission of the United States Weather Research Program (USWRP) is to accelerate forecast improvements of high impact weather and facilitate full use of advanced weather information. The program's vision is to mitigate the effects of weather-induced disasters; reduce the costs associated with routinely disruptive weather; create opportunities for increased productivity through better weather information; and assist the military in the accomplishment of its mission. The current USWRP team includes NOAA as the lead agency, National Science Foundation, National Aeronautics and Space Administration, and the United States Navy. The Federal Coordinator has contacted additional agencies to broaden federal participation in the USWRP in accordance with an action from the Interdepartmental Committee for Meteorological Services and

Supporting Research, direction from the Chairman of the Federal Committee for Meteorological Services and Supporting Research, and a recommendation from the National Academy of Sciences/National Research Council Board on Atmospheric Sciences and Climate (BASC). The additional agencies included Federal Aviation Administration, Federal Highway Administration, United States Air Force, Department of Energy, United States Department of Agriculture, and Federal Emergency Management Agency. This has led to more interaction directly between the leadership of the USWRP and interested agencies to discuss in more detail agency specific needs which may be benefited by the program. It is expected that several additional federal participants will join the USWRP and that the USWRP priorities will be expanded to address their needs. An OFCM representative also attends all meetings of the Interagency Working Group of the United States Weather Research Program.

Collaboration with NAS/Board on Atmospheric Sciences and Climate. OFCM continued its mutually beneficial interactions with the National Research Council/National Academy of Sciences. OFCM conducted a forum to respond to agency priorities and to address Leadership and Management Recommendation 1 of the National Research Council/ National Academy of Sciences Board on Atmospheric Sciences and Climate (BASC) report *The Atmospheric Sciences Entering the Twenty-First Century*. In the June 2000 BASC Letter Report on the United States Weather Research Program, BASC recommended that the FCMSSR Chairman use that role to bring other agencies into the program. The August 8-11, 2000, BASC Summer Study on Climate Services at Woods Hole, Massachusetts, was a result of an earlier FCMSSR/BASC joint meeting, and resulted in the 2001 publication *A Climate Services Vision: First Steps Toward The Future*. OFCM's Committee for Climate Analysis, Monitoring and Services (CCAMS) has adopted the BASC definition of climate services to be "The timely production and delivery of useful climate data, information, and knowledge to decision makers." The committee is also following up on recommendations from the BASC Climate Services report to "inventory existing observing systems and data holdings," and to "promote efficiency by seeking out opportunities to combine the efforts of existing observation networks to serve multiple purposes in a more cost-effective manner." Subsequent to the November 14, 2000, FCMSSR meeting which was attended by BASC representatives, FCMSSR recommended communication of weather and climate information for the BASC 2001 Summer Study, and the report of this activity is pending. The Federal Coordinator also participated in the BASC 2002 Summer Study on *Tools for Tracking Chemical/Biological/ Nuclear Releases in the Atmosphere: Implications for Homeland Security*," and participated in the weather modification study conducted by BASC.

Collaboration with CENR/ Subcommittee on Natural Disaster Reduction. OFCM has been an active participant in the work of the Committee on Environment and Natural Resources (CENR) Subcommittee on Natural Disaster Reduction (SNDR). Over the past several months, the focus of this group has been to define its strategic vision in coordination with the White House Office of Science and Technology Policy and the Office of Homeland Security. Through OFCM representation on the SNDR, OFCM has helped craft the subcommittee's charter and annual operating plan. The major thrust of these documents is to: (1) promote effective strategies for reducing national vulnerability to disaster risks and losses by leveraging expertise and information across the federal government and (2) establish focused outreach to the academic and private communities. To achieve these goals, the OFCM is committed to working with SNDR to provide a forum for information sharing, development of collaborative opportunities, and interactive dialogue with the United States policy community to advance informed strategies for managing risks associated with natural and technological disasters.

COOP Modernization Partners' Forum. The National Oceanic and Atmospheric Administration (NOAA) conducted a *COOP Modernization Partners' Forum: Building a National Observing Capability for the Future* in Rockville, Maryland, on September 18, 2002. NOAA's goal is to upgrade approximately 8,000 volunteer Cooperative Observer Network (COOP) stations nationwide to provide accurate, secure, hourly temperature and precipitation data in addition to daily snowfall and snow depth observations. For the first time, data will be available in real-time from this network. The forum was cosponsored by the National Weather Service Office of Climate, Water, and Weather Services; National Climatic Data Center; NOAA Climate Observations and Services Program; and Office of the Federal Coordinator for Meteorology. NOAA provided customers of the COOP data with detailed information on the technical proposal for modernizing the COOP network system architecture, including observation instrumentation, data communications, archiving, and quality control. The forum allowed customers direct exchange with NOAA COOP management personnel to provide their input. The Federal Coordinator chaired a session on the NOAA COOP Modernization Proposal and Benefits.

Interagency Task Force on Risk Management. The purpose of the Interagency Task Force on Risk Management is to examine and report on the role of precaution in risk management decisions by managers or decision makers in both the public and private sectors, especially regarding risks to human welfare, quality of life, and environmental protection. The Federal Coordinator represented NOAA at the June 24, July 19, and August 7, 2002, meetings of the Interagency Task Force on Risk Management. At these meetings, agencies discussed and are providing the following relevant information: precautionary/regulatory risk management standards and guidelines; risk assessment and management requirements/practices; decision criteria regarding different risks; and historical examples where risk management decisions incorporated too much, too little, or the appropriate amount of precaution.

Lightning Data User Requirements. OFCM's Joint Action Group for Lightning Detection Systems (JAG/LDS) met several times to obtain federal agency requirements for lightning data. The requirements will serve as input to the National Weather Service contract solicitation to acquire lightning data on behalf of all federal agencies.

GOES Users Conference II. The Federal Coordinator participated in the GOES Users Conference II, October 1-3, 2002, Boulder, Colorado. Goals of the Conference were to (1) inform users of future capabilities and potential applications of the GOES-R Series; (2) determine user needs for new products, distribution of GOES data and products, instruments of opportunity, access to sample data prior to launch of next series, and education, training and outreach; (3) assess user and societal benefits of future systems; and (4) develop methods to improve communication between NESDIS and the GOES user community (develop, present, and refine a process for determining and updating requirements). The Federal Coordinator made a presentation on the role of OFCM in interagency coordination.

American Meteorological Society. During FY 2002, OFCM joined leading environmental science and service corporations in supporting undergraduate scholarships in the atmospheric and related oceanic and hydrologic sciences. The scholarships, awarded for the junior and senior years, are designed to encourage outstanding undergraduates to pursue careers in the fields covered by the awards. OFCM plans to continue this support. OFCM also supports American Meteorological Society endeavors by participating in AMS conferences and workshops and other environmental science education and outreach programs.

PUBLICATIONS AND OFCM'S WEBSITE

The following plans and publications were prepared in hardcopy form and most have been placed on OFCM's website (*www.ofcm.gov*):

- *The Federal Plan for Meteorological Services and Supporting Research -- Fiscal Year 2002*
- *National Hurricane Operations Plan*
- *55th Interdepartmental Hurricane Conference (Minutes)*
- *Proceedings of the Workshop on Strategy for Providing Atmospheric Information: Planning to Exploit our National Investment in Weather Technology*
- *Proceedings of the Workshop on Effective Emergency Response: Selecting a Suitable Dispersion Model for a Given Application*
- *Aviation Weather Training: A Report on Training for Emerging and Recently Implemented Aviation Weather Programs*
- *Selection and Evaluation of Atmospheric Transport and Diffusion Models*
- *Weather Information for Surface Transportation*

The following documents are planned for publication during FY 2003:

- *The Federal Plan for Meteorological Services and Supporting Research -- Fiscal Year 2003*
- *National Hurricane Operations Plan*
- *56th Interdepartmental Hurricane Conference (Minutes)*
- *Proceedings of the Risk Assessment/Risk Management Workshop*
- *Proceedings of the Workshop on Weather Support for the United States Marine Transportation Service*
- *National Plan for Post-Storm Data Acquisition*
- *A National Framework for Volcanic Ash Hazards to Aviation*

During FY 2002, OFCM continued to make substantial progress on its use of the Internet. In addition to information about the office, OFCM has placed its current publications on its website, and keeps the website current with information regarding workshops and symposia being conducted by the office. OFCM will continue to make information available on the Internet during FY 2003.

Table A.1 Current OFCM Publications

Publication Title	Date	Number
Federal Plan for Meteorological Services and Supporting Research, Fiscal Year 2002	*June 2001*	*FCM-P1-2001*
National Plan for Space Environment Services and Supporting Research: 1993-1997	August 1993	FCM-P10-1993
National Severe Local Storms Operations Plan	*May 2001*	*FCM-P11-2001*
National Hurricane Operations Plan	*May 2002*	*FCM-P12-2002*
National Winter Storms Operations Plan	*November 2000*	*FCM-P13-2000*
Federal Plan for Cooperative Support and Backup Among Operational Processing Centers	*May 1996*	*FCM-P14-1996*
National Plan for Stratospheric Monitoring, 1988-1997	July 1989	FCM-P17-1989
National Aircraft Icing Technology Plan	April 1986	FCM-P20-1986
National Plan to Improve Aircraft Icing Forecasts	July 1986	FCM-P21-1986
Federal Plan for the Coordination of Automated Weather Information System Programs	May 1988	FCM-P23-1988
Federal Plan for Meteorological Information Management	July 1991	FCM-P24-1991
National Plan for Tropical Cyclone Research and Reconnaissance (1997-2002)	*January 1997*	*FCM-P25-1997*
National Aviation Weather Program Plan	September 1992	FCM-P27-1992
National Geostationary Operational Environmental Satellite (GOES) Data Collection System (DCS) Operations Plan	August 1997	FCM-P28-1997
Federal Plan for Marine Environmental Data, Services, and Supporting Research	June 1996	FCM-P29-1996
The National Space Weather Program: Strategic Plan	*August 1995*	*FCM-P30-1995*
The National Space Weather Program: Implementation Plan - 2nd Edition	*July 2000*	*FCM-P31-2000*
National Aviation Weather Strategic Plan	*April 1997*	*FCM-P32-1997*
National Aviation Weather Initiatives	*February 1999*	*FCM-P34-1999*
National Aviation Weather Initiatives, Final Baseline Tier 3 and 4 Report	*April 2000*	
Federal Meteorological Handbook No. 1 - Surface Weather Observations and Reports	*December 1995*	*FCM-H1-1995*
Federal Meteorological Handbook No. 2 - Surface Synoptic Codes	December 1988	FCM-H2-1988
Surface Synoptic Code Tables (Update)	July 1990	FCM-T1-1990
Federal Meteorological Handbook No. 3 - Rawinsonde and Pibal Observations	*May 1997*	*FCM-H3-1997*
Federal Meteorological Handbook No. 10 - Meteorological Rocket Observations	December 1988	FCM-H10-1988
Federal Meteorological Handbook No. 11 - Doppler Radar Meteorological Observations		
Part A - System Concepts, Responsibilities and Procedures	June 1991	FCM-H11A-1991
Part B - Doppler Radar Theory and Meteorology	June 1990	FCM-H11B-1990
Part C - WSR-88D Products and Algorithms	February 1991	FCM-H11C-1991
Part D - WSR-88D Unit Description and Operational Analysis	April 1992	FCM-H11D-1992

Table A.1 Current OFCM Publications (cont.)

Publication Title	Date	Number
Federal Meteorological Handbook No. 12 - United States Meteorological Codes and Coding Practices	*December 1998*	*FCM-H12-1998*
Directory of Atmospheric Transport and Diffusion Consequence Assessment Models	*March 1999*	*FCM-I3-1999*
Federal Directory of Mobile Meteorological Equipment and Capabilities	*December 1995*	*FCM-I5-1995*
A Guide to WMO Code Form FM 94 BUFR	*March 1995*	*FCM-I6-1995*
Tropical Cyclone Studies Tropical Cyclone Studies Supplement	December 1988 August 1989	FCM-R11-1988 FCM-R11-1988S
Interdepartmental Meteorological Data Exchange System Report, IMDES	*August 1998*	*FCM-R12-1998*
Federal Meteorological Requirements 2000	October 1990	FCM-R13-1990
U.S. Wind Profiler: A Review	*March 1998*	*FCM-R14-1998*
Standard Formats for Weather Data Exchange Among Automated Weather Information Systems	November 1994	FCM-S2-1994
Standard Telecommunication Procedures for Weather Data Exchange (under revision)	October 1991	FCM-S3-1991
Federal Standard for Siting Meteorological Sensors at Airports	*August 1994*	*FCM-S4-1994*
55th Interdepartmental Hurricane Conference (Minutes)	December 2001	
Proceedings of the Workshop on Multiscale Atmospheric Dispersion Modeling within the Federal Community	*June 2000*	
Proceedings of the Aviation Weather User Forum--Aviation Weather: Opportunities for Implementation	*July 2000*	
Proceedings for the Symposium on Weather Information for Surface Transportation: Delivering Improved Safety and Efficiency for Tomorrow	*February 2000*	
Proceedings of the Symposium on Weather Information for Surface Transportation -- Preparing for the Future: Improved Weather Information for Decision Makers	*March 2001*	
Proceedings of the Forum on Risk Management and Assessment of Natural Hazards	*July 2001*	
Proceedings of the Workshop on Strategy for Providing Atmospheric Information	*March 2002*	
Aviation Weather Training: A Report on Training for Emerging and Recently Implemented Aviation Weather Programs	*April 2002*	*FCM-R16-2002*
Proceedings of the Workshop on Effective Emergency Response	*May 2002*	

Italics = publication available online at *www.ofcm.gov*